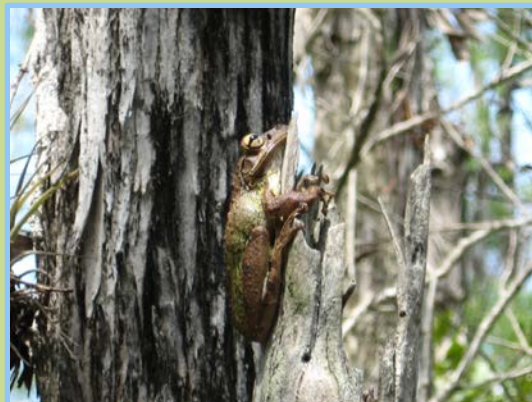


# Seminole Tribe of Florida

## Environmental Resource Management Dept. Big Cypress Reservation



### Environmental Science Staff

Environmental Protection Specialist III  
Stacy Myers

Environmental Scientist  
David Bishof

Environmental Protection Specialist  
Elizabeth Letts

Wildlife Biologist  
Pauline Haas

Biological Technician  
Mandy D'Andrea

Presented by: Elizabeth Letts

### Forestry Staff

Forester  
Courtney Heckler

Forestry Planner  
Grant Steelman

Forestry Technician  
Dane Martin

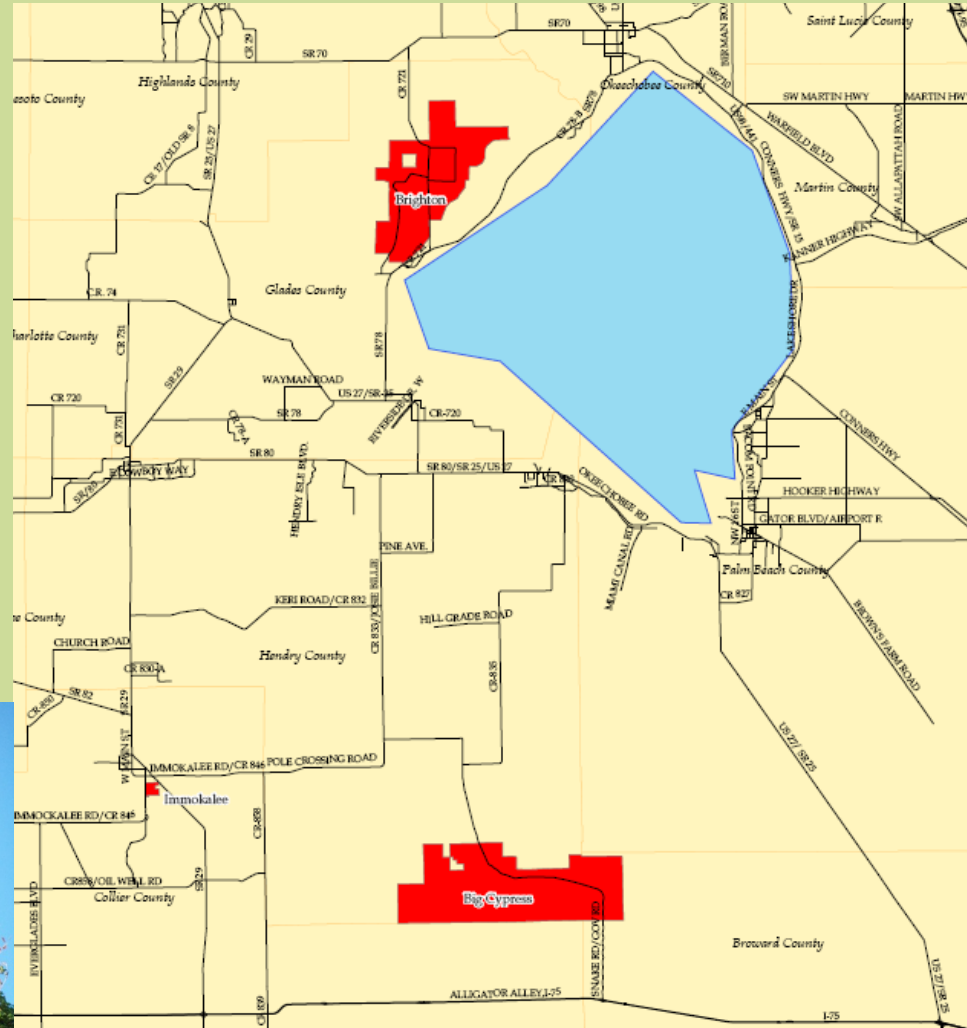
**Director  
Craig Tepper**

**Assistant Director  
Cherise Maples**

# 2011 Everglades Invasive Species Summit

## History/Background

- Our main focus for exotic treatments are on the Brighton and Big Cypress Reservations
- ERMD established 1987
- Invasive Species Management Plan established 2007
- Conceptual Wetland and Wildlife Management Plans 2011



# Invasive Species Programs

- Invasive species are controlled on Seminole Tribe of Florida Lands.
- The bulk of invasive treatment occurs on the Big Cypress and Brighton reservations.
- Mitigation Areas are managed and invasive plants eradicated
- Community Treatments of exotic vegetation



Rosary Pea  
*Abrus precatorius*



Burmese Reed  
*Neyraudia reynaudiana*

- Bulk: Melaleuca, Brazilian Pepper, Lygodium, Air Potato
- How: Frill & Girdle, Foliar Spray, Basal Bark, Hand Removal
- Heavy infestations on project areas ranging from 300 to 500 acres
- Small acreage projects: treatment of fire lines in native area 50 feet in to avoid spread of seed

## Priority Plant Species

- **Native Areas:**
  - Melaleuca - *Melaleuca quinquenervia*
  - Brazilian Pepper - *Schinus terebinthifolia*
  - Old World Climbing Fern - *Lygodium microphyllum*
  - Air Potato - *Dioscorea bulbifera*
- **Agricultural and Waterways:**
  - Hydrilla - *Hydrilla verticillata*
  - Tropical Soda Apple - *Solanum viarum*
  - Cogongrass - *Imperata cylindrica*
  - Smutgrass - *Sporobolus indicus*
- **Newly Detected Plant Species**
  - No new species have been documented



# Priority Animal Species

- **Priority Animals**

- Pythons and Boa Constrictors
- Sacred Ibis
- Cuban Tree Frogs
- Purple Swamp Hen
- Feral Hogs



- **Known to Occur**

- Feral Hogs
- Burmese Python
- Brown Anole
- Cuban Treefrog



- **Potential to Occur\***

- Boa Constrictor
- Tegus & Monitors
- Starlings

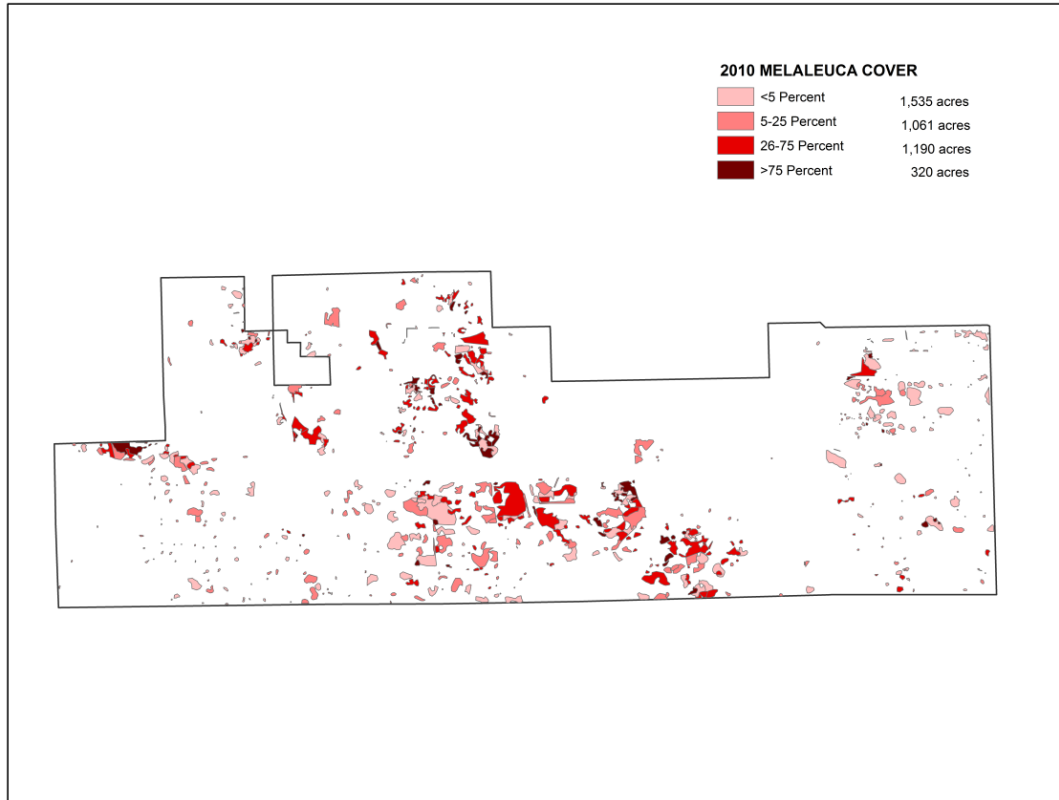


- **Newly Detected Animal Species**

- No new species have been documented

Feral Hog pictures taken by Mandy D'Andrea  
STOF ERMD

## Digital Aerial Sketch Mapping

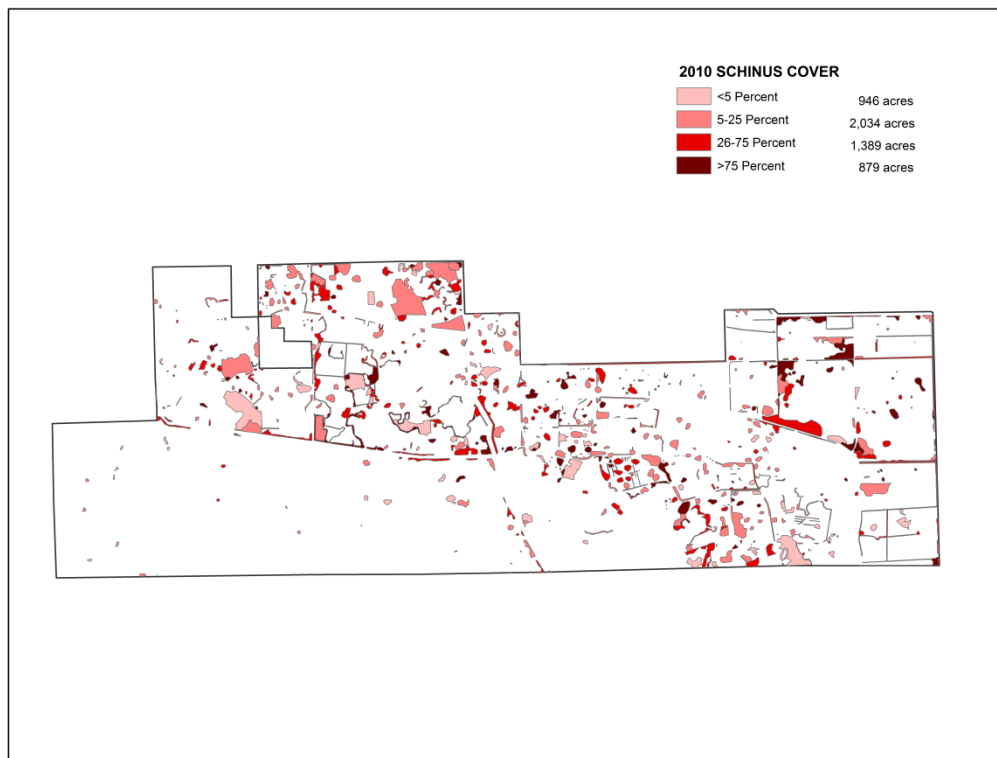


### Big Cypress Seminole Indian Reservation

#### Melaleuca

<u>Coverage Class</u>	<u>Acres</u>
High	320
Medium	1,190
Low	2,596
Total	4,106

## Digital Aerial Sketch Mapping

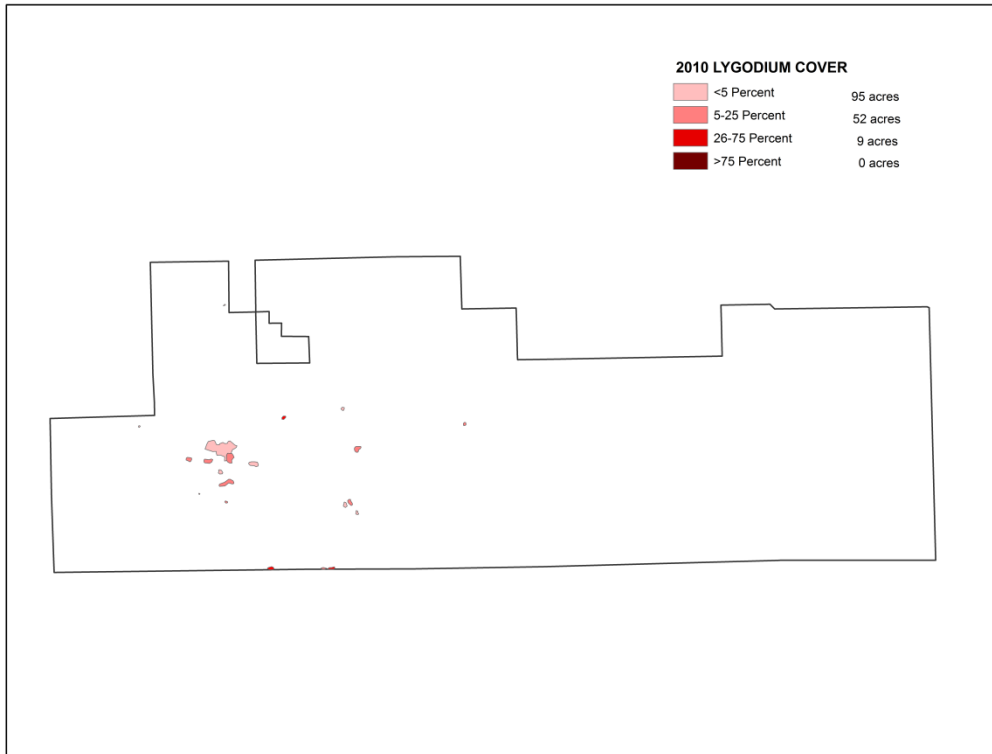


### Big Cypress Seminole Indian Reservation

### Brazilian Pepper

<u>Coverage Class</u>	<u>Acres</u>
High	879
Medium	1,389
Low	2,980
<b>Total</b>	<b>5,248</b>

## Digital Aerial Sketch Mapping

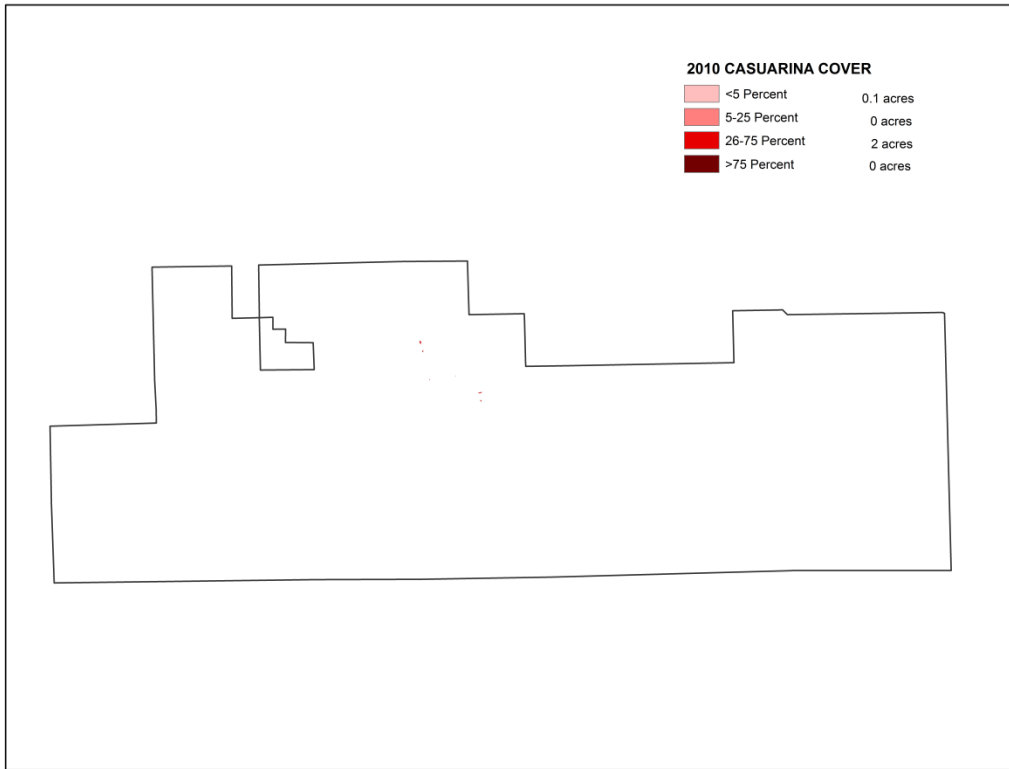


Big Cypress  
Seminole Indian Reservation

### Old World Climbing Fern

<u>Coverage Class</u>	<u>Acres</u>
High	0
Medium	9
Low	147
<b>Total</b>	<b>156</b>

## Digital Aerial Sketch Mapping



**Big Cypress  
Seminole Indian Reservation**

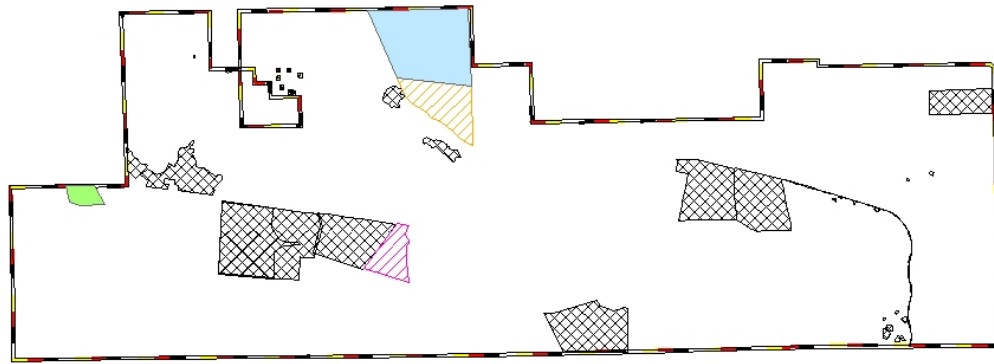
### **Australian Pine**

<u>Coverage Class</u>	<u>Acres</u>
High	0
Medium	2
Low	0.1
<b>Total</b>	<b>2.1</b>

# 2011 Everglades Invasive Species Summit

## Fiscal Year Treatments: 2011

Big Cypress Completed, Active, & Planned Exotic Plant Treatments



### Legend

▣ Completed Treatments

2011 Completed EP Treatments

▨ Wetland Enhancement Area 4 east

▨ Wildland/Urban Interface Unit 1 Priority 2

▨ Wetland Enhancement Area 6

2012 Planned EP Treatments

▨ Wildland/Urban Interface Unit 1 Priority 1

▣ BC Boundary



0 1.25 2.5 5  
Miles

### Environmental Science ISM

- Wetland Enhancement Area 4 (WEA4)
  - Within “native area”
  - Advanced Mitigation Program
  - 289 acres

### Forestry ISM

- Wildland/Urban Interface (WUI)
  - Community Treatments
  - Priority 1 Unit 2 : 522 acres



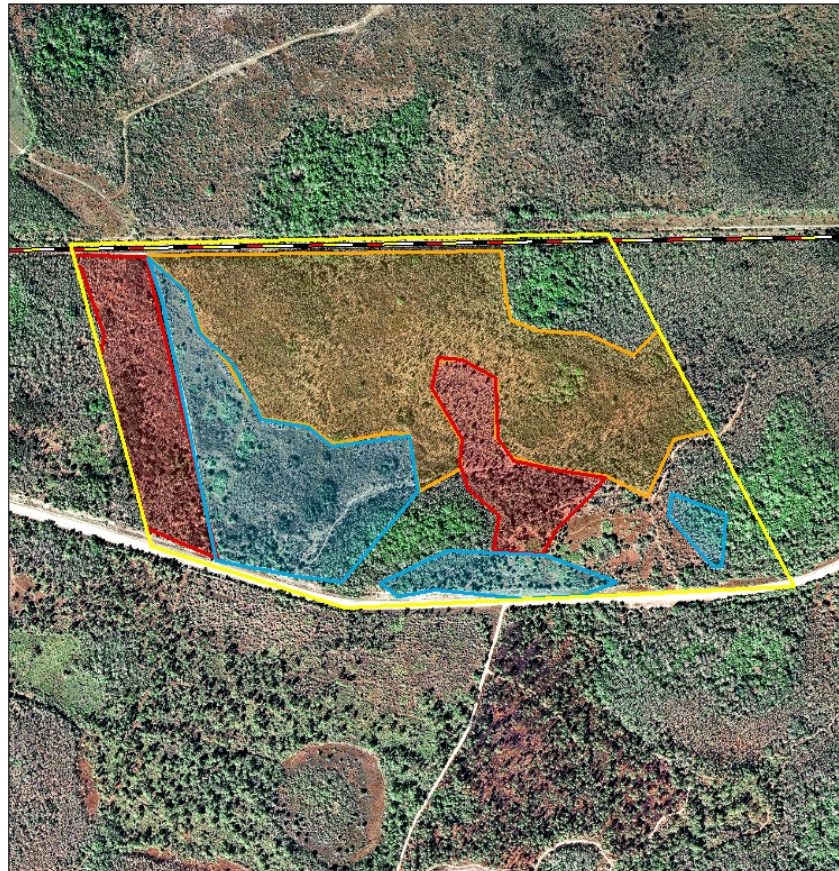


# 2011 Everglades Invasive Species Summit

## Planned Treatments: 2012

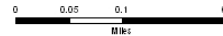
### ERMD Environmental Science Section Exotic Plant Treatments

#### Advanced Mitigation Program Wetland Enhancement Area 6



#### Seminole Tribe of Florida Big Cypress Reservation

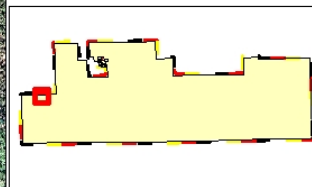
Wetland Enhancement Area 6 (WEA 6)  
2012 Planned  
Invasive Vegetation Treatment



#### Legend

- WEA 6
- Melaleuca 6-25% 25.04 acres
- Melaleuca 25-75% 18.01 acres
- Melaleuca >75% 42.6 acres
- BC Boundary

Text



Map created by Elizabeth Latta, Environmental Resource Management Department  
© 2011 - 2010 Florida A&M



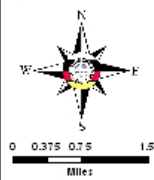
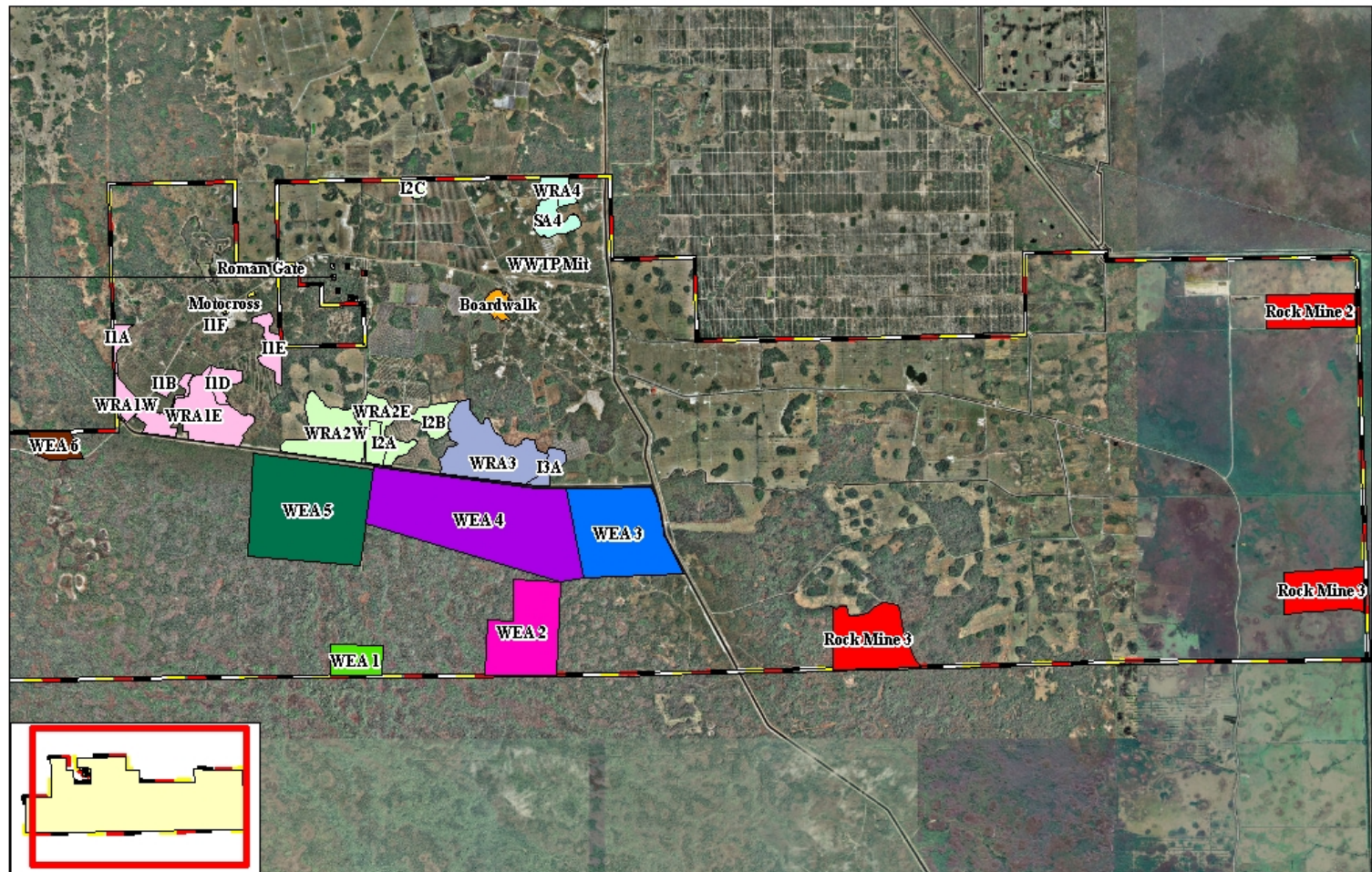
**•117.02 acre Mitigation Area  
•Good candidate for aerial  
application due to high *Melaleuca  
quinquenervia* infestation**

## Monitoring

- **Project-Specific Mitigation Areas**
  - For development resulting in wetland impacts
  - Enhancement of existing wetlands through Invasive Species removal and restoration of hydrology
- **Advanced Mitigation Program**
  - Generates credits for future development impacts through enhancement of existing wetlands through Invasive Species removal, restoration of hydrology, and establishment of FACW to OBL vegetation
  - Source of Functional Value Units (FVU's) and Panther Habitat Units (PHU's)
  - 6 Wetland Enhancement Areas totaling 4,145 acres
- **CERP "critical project" (section 528 of WRDA '96 ): Big Cypress Water Conservation Plan**
  - Mitigate for harm to land and water systems within Reservations to ensure sustainable future
  - Continue farming/ranching activities while improving water quality & hydroperiods
  - Enhance habitat for flora/fauna
  - To date WRA 1 has been constructed, WRA 4 to be built September 2011
  - 4 Basins and project features totaling 11,000 acres

# 2011 Everglades Invasive Species Summit

## Big Cypress Mitigation Areas



**Seminole Tribe of Florida Big Cypress Reservation**

Mitigation Monitoring Areas

Map created by Elaine G. Little, Environmental Resource Management Department  
7/20/2011, 2010 True Color Aerial

**Legend**

Boardwalk	I1F	Rock Mine 2	WEA 3	WRA2E
I1A	I2A	Rock Mine 3	WEA 4	WRA2W
I1B	I2B	Roman Gate	WEA 5	WRA3
I1C	I2C	SA 4	WEA 6	WRA4
I1D	I3A	WEA 1	WRA1E	WWTP Mit
I1E	Motocross	WEA 2	WRA1W	BC Boundary

# Innovations and Successes

- 2011 Monitoring Event of Advanced Mitigation Program completed
- Wetland Enhancement Area 5 is trending towards success
  - Vegetation is shifting to FACW and OBL species
  - WEA 5 has been treated for exotic species



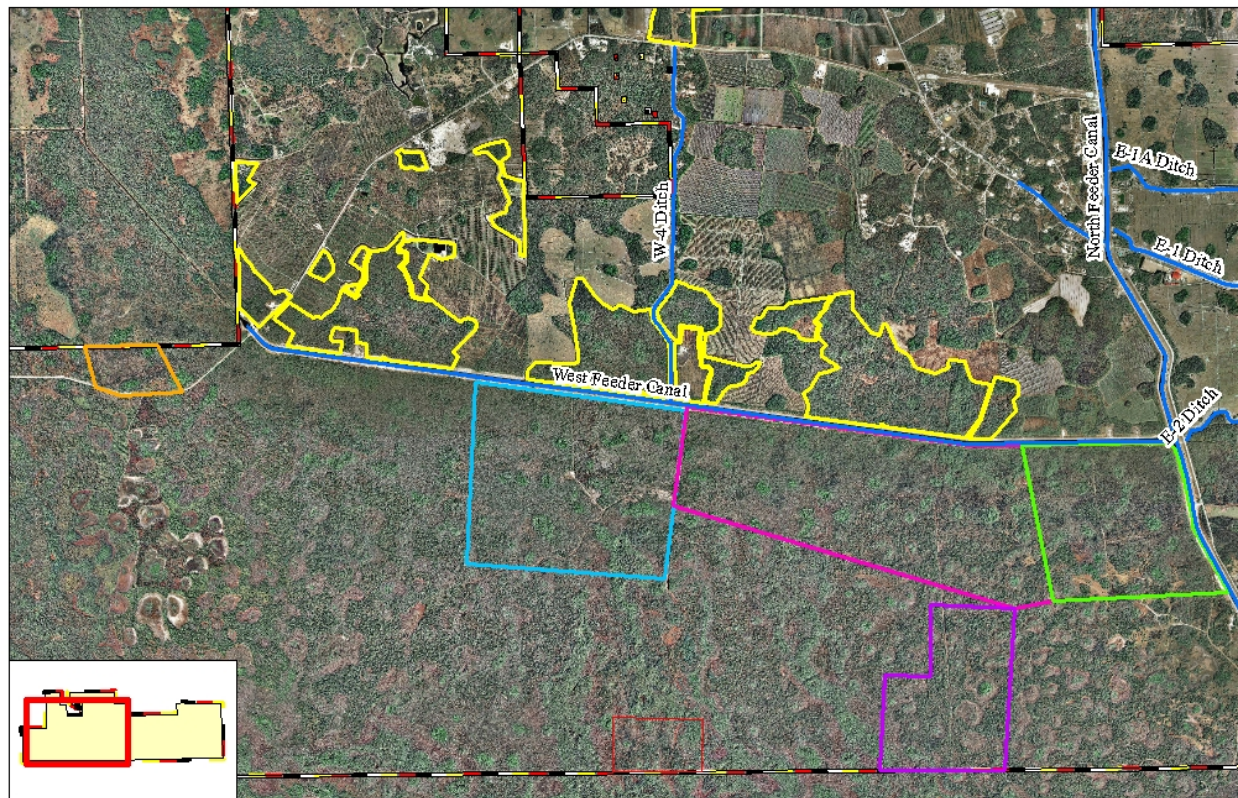
## Significant Findings

- 2011 monitoring reporting of the Wetland Enhancement Areas 1-6
  - A small acreage area in WEA 5 used mechanical removal, mowing, & spray of mulch in area
  - Monitoring of this area shows that the vegetation is not growing
  - The ideal situation would be to remove *Melaleuca* and mulch off site



## Critical Needs & Gaps

- Mitigation areas bordering canals see a higher level of exotics due to decreased hydrology
- The level of the West Feeder Canal should be raised to higher the water table in these areas



# Conclusion

- In the Big Cypress Reservation we have mitigation banks and exotic vegetation much like the rest of South Florida
- Our staff is working hard to eradicate these exotic species across Seminole Tribe of Florida lands
- Restoration of hydrology and eradication of exotic vegetation is key to enhancing these wetland mitigation areas

# 2011 Everglades Invasive Species Summit

A photograph of a forest with many palm trees and a thought bubble. The forest is dense with tall, thin trees and many palm trees in the foreground. A thought bubble is superimposed on the image, containing the text "Questions ?".

Questions  
?

Thank you to all who work so hard to improve Florida native habitats

Contact:  
[ElizabethLetts@semtribe.com](mailto:ElizabethLetts@semtribe.com)